

## **Introduction**

OSI and Partnerships UK<sup>1</sup> carried out a consultation exercise between August and November 2006 on increasing the impact of future rounds of the Public Sector Research Exploitation fund ("the PSRE fund"). Individuals from four groups were consulted:

- Chairs and Chief Executives of PSREs;
- business development and programme managers with responsibility for commercialisation within PSREs;
- officials from parent departments and Research Councils; and
- Science and Innovation managers from RDAs.

The consultation reached approximately 50 PSREs, 4 parent departments and 4 RDAs (including the RDA with the lead for innovation policy). Although all PSREs were invited to contribute to this consultation, the majority of respondents were from PSREs which had received funding in earlier rounds of the PSRE fund. A full list of the organisations consulted is included as appendix 1.

Consultation was conducted through a series of interviews and meetings rather than by requesting written responses. The community had previously requested more networking events. These meetings met this request while carrying out the consultation.

In addition to their responses to the specific questions; PSREs emphasised that:

- there are significant differences between individual PSREs in terms of their structure, markets, core missions and corporate goals;
- the PSRE fund provides unique support for the commercialisation of PSREs' research. It is the only fund that covers the entire PSRE community. As well as supporting individual PSREs it supports collaboration between groups of PSREs from different parent departments. The fund is also the only source of Government support for the spread of best practice across the entire PSRE community;
- commercialisation of research in many PSREs continues only because of the support from the fund. There was, however, recognition that the PSRE fund was never intended to support commercialisation of PSRE research in perpetuity;
- the fund compared favourably to other funding streams which the PSREs could access as it has a fast, streamlined application process, rapid decision making and a relatively light regulatory regime.

This consultation made no attempt to quantify the economic impact of PSRE fund. Nevertheless, respondents identified a wide range of economic benefits and beneficiaries.

### **1 – Scope of the Fund**

There are two components to the PSRE fund:

- capacity-building, this covers a broad range of activities which are required to manage commercialisation, including:

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<sup>1</sup> Partnerships UK provides support to OSI on aspects of the PSRE funding process

- providing staff with the expertise required to manage intellectual property (through recruiting new staff, training existing staff or contracting with an external organisation to provide services);
- audits of markets to identify commercial opportunities; and
- awareness-raising among staff of the importance of ensuring that Intellectual Property is properly protected and to encourage them to consider whether any elements of their research are capable of commercial exploitation.

To date, the capacity-building component has included early stage proof of concept funding (PoC), to fund initial development of ideas to establish whether they are capable of being developed into a commercial product or service (funding to provide later stage development and exploitation of ideas is covered by the Seed Fund component).

- Seed Fund – not under discussion in this consultation exercise.

(A list of the activities currently covered by each element of the fund is included as appendix 2)

PSREs were asked to consider:

- whether preference should be given to collaborative bids which brought together PSREs in the same region or area of research;
- whether preference should be given to collaborative bids which included non-PSREs as well as PSREs;
- whether the range of activities covered by the Capacity element of the fund should be changed; and
- whether the PoC element should be a separate, stand alone, element of the fund.

In their responses, PSREs acknowledged OSI's desire to increase the impact of the fund by ensuring that it supports commercialisation in more PSREs. Collaborative bids are one way of achieving this. PSREs did not, however, agree that collaboration should be made a condition of eligibility or that there should be a "bias" in the assessment process in favour of bids solely because they were from a collaboration.

PSREs agreed that organisations that have been in receipt of funds for some time would be better able to prepare collaborative bids than those PSREs who had not previously been awarded funding. This is reflected in previous funding rounds: there were more collaborative bids in round 3 than round 1. Collaborations are most often driven by a common problem, bringing together sector strengths (providing critical mass) or providing wider access to specialist facilities/expertise.

Respondents proposed that bids from organisations which had already been successful in several funding rounds should be subject to greater scrutiny during the assessment process than those for PSREs who had not previously received funding. But there was a clear consensus that OSI should support the best bids regardless of the history or experience of the bidders.

There were mixed views on whether the fund should continue to support awareness-raising and training. For some PSREs the need to train new commercialisation staff and raise awareness of IP within the organisation reduces over time, for others it is a continuing need as staff turnover creates a steady flow of personnel without knowledge of commercialisation or the importance of protecting IP (this was especially a problem for the NHS).

The Proof of Concept (PoC) element of the fund was agreed by all PSREs to be an essential part of the fund which has no equivalent in any other source of public funding which covered the entire PSRE community. All PSREs who commented wanted to see it continue or expand. There were no strong views about whether it should be attached to, or separate from, the Capacity component of the fund. Separation would lead to a separate assessment process and more administration for PSREs and for OSI. Many PSREs took the view that "it's working well – don't change it".

## 2 – Co-Funding

PSREs considered whether, in order to increase the funds which were available to organisations which had not previously been funded, bids from PSREs which had been successful in previous rounds should be required to secure co-funding from other sources. The level of co-funding required could be on a sliding scale based on the number of previous rounds in which the PSRE had been successful. This co-funding requirement could be introduced in PSRE4, with (as an illustrative model) 50% co-funding being required for PSREs that had already been successful in three rounds, 75% co-funding for PSREs which had been already been successful in four rounds and no funding being available for PSREs which had been successful in five previous rounds.

The principle of co-funding was generally accepted by respondents, including many of the PSREs who had been successful in several previous rounds.

Some respondents, however, expressed concern about the speed at which the proposed proportions of co-funding would be introduced and the level co-funding which would be required at each stage. PSREs noted that:

- Parent Departments should support their PSREs in exploiting innovation. However many do not make the funds available to support this activity and did not regard commercialisation as a priority in Departmental objectives. PSREs suggested that OSI should pursue this with Chief Scientific Advisors.
- Introducing co-funding will make the bidding process more complicated for PSREs as they would have to secure appropriate partners, agreeing terms, project objectives and outcomes, securing funding in advance of preparing the OSI bid. This will result in generating more bidding costs for PSREs.
- It took considerable time to develop the research they are commercialising into marketable products and therefore generate income or attract private sector investment which could be used as co-funding.

Some PSREs said that if they were required to secure more than 50% of the funding from other sources they would be unlikely to apply to the PSRE fund.

PSREs accepted the principle that OSI should not support their commercialisation activities in perpetuity. Against this background they supported the proposal to introduce co-funding. The initial proposal would introduce this co-funding too quickly to allow PSREs to build up alternative funding sources. Respondents instead supported an alternative model whereby 25% co-funding should be required for PSREs which had been successful in three previous rounds and 50% for those who had been successful in four and five previous rounds.

Some respondents argued that the level of co-funding required should be reduced if a PSRE which had been successful in several previous rounds of the fund went into

collaboration with one or more PSREs without experience of commercialisation. This would provide an incentive for experienced players to nurture the commercialisation capacities of less experienced ones. Others argued that this approach would be unnecessarily complicated and that OSI should continue to assess bids solely on their merits.

### **3 – Economic Impact**

PSREs were asked to identify the different types of economic impact and likely beneficiaries of the PSRE fund. A range of views were expressed on the economic impact of the commercialisation of PSRE research and how that should be measured. This reflected the diversity of PSREs and their activities. For some, the economic impact might be in terms of improved public services. For others it might be jobs created, products sold or increased numbers of visitors to exhibitions run by a museum or gallery. It was suggested that OSI might commission a study into the economic impact of PSREs.

Key questions and points made by respondents on the economic impact of PSREs included:

- There was no consensus on how to measure the economic impact of PSREs; this probably reflects the diverse nature of the PSRE community.
- Funding for PSRE exploitation should have a lower cost and a higher impact than some other funding streams because the initial R&D is already paid by parent departments. The PSRE fund is a catalyst to release previously untapped value.
- OSI should use caution when comparing the impact of the PSRE fund to other funding schemes such as HEIF as this would not be a comparison of like for like.
- Outputs from individual PSREs will change as their exploitation activities develop. Different metrics need to be employed at different stages of development of the PSRE's commercialisation activities. Some impacts are visible only over a long period of time.
- Case studies might help to illustrate economic impact e.g. DNA database and its use in crime reduction. Case studies would help to highlight that these benefits would include both those which deliver a direct financial benefit and those which deliver a benefit for society which could not be assessed in solely financial terms.
- In identifying the impact of the fund, the benefits of building up the same activity over several rounds should be assessed.

## **Appendix 1 – list of organisations and individuals consulted**

List of attendees at meeting on 16 Oct 2006

1. Chairman, SW NHS Innovations Hub
2. Chairman, TrusTECH, NW NHS Innovations Hub
3. Managing Director, National Physical Laboratory
4. Director, Sea Mammals Research Unit
5. Director, Institute of Food Research
6. Acting Chief Executive, Defence Science and Technology Laboratory
7. Director, British Geological Survey
8. Chief Executive, The Forensic Science Service Ltd

List of organisations interviewed between August and October 2006

1. NHS Innovations Hub; Northern Ireland
2. Forest Research
3. Arts and Humanities Research Council
4. Particle Physics and Astronomy Research Council
5. Biotechnology and Biological Sciences Research Council
6. Plant Bioscience Ltd
7. Department for Environment, Food and Rural Affairs
8. Central Science Laboratory
9. Defence Science and Technology Laboratory
10. British Geological Survey
11. NHS Innovations Hub East Midlands
12. Natural Environment Research Council
13. Tate Britain
14. The Roslin Institute
15. National Museums Liverpool
16. Council for the Central Laboratory of the Research Councils
17. The Forensic Science Service
18. NHS Innovations Hub; North East
19. Rainbow Seed Fund
20. Regional Development Agencies; South East England Development Agency and South West of England Regional Development Agency
21. National Physical Laboratory
22. Ministry of Defence
23. Department of Health

Organisations represented at the 1<sup>st</sup> Nov consultation conference

\* = those PSREs in receipt of funds from PSRE1,2, or 3.

Forest Research\*  
Rainbow Seed Fund\*  
Proudman Oceanographic Laboratory  
Ploughshare Innovations Ltd\* (commercial arm of Defence  
Science and Technology Laboratory)  
National Physical Laboratory\*  
Department of Health  
NHS Institute for Innovation & Improvement  
Scottish NHS Innovations Hub \*  
National Maritime Museum  
Forensic Science Service\*

Ploughshare Innovations Ltd\*  
Natural History Museum  
Council for the Central Laboratory of the Research Councils  
Northern Ireland NHS Innovations Hub  
NHS Innovations Hub London\*  
Babraham Bioscience Technologies Limited\*  
Defence Science and Technology Laboratory \*  
NHS Innovations Hub South East\*  
Health Protection Agency\*  
BBSRC Business and Innovation Unit\*  
South East England Development Agency  
NHS Innovations Hub North of England \*  
National Endowment for Science, Technology and the Arts  
Sea Mammal Research Unit\*  
Forensic Science Service\*  
Plant BioScience Limited\*  
National Maritime Museum  
NHS Innovations Hub South East\*  
Tate Britain\*  
Genomia Fund\*  
National Centre for Atmospheric Science  
Roslin Institute\*  
NHS Innovations Hub South West\*  
Genecom\*  
Rainbow Seed Fund\*  
Veterinary Laboratories Agency\*  
Forest Research\*  
London Development Agency  
Genecom\* (a consortium covering Roslin Institute, Moredun Research Institute and the Institute for Animal Health)  
Papworth Hospital NHS Foundation Trust\*  
Particle Physics and Astronomy Research Council \*  
Natural Environment Research Council\*  
NHS Innovation Hub for Yorkshire and the Humber \*  
NHS Innovations Hub for the North West \*  
NHS Innovations Hub North of England \*  
British Geological Survey  
Medical Research Council Technology  
Central Science Laboratory\*  
IP Pragmatics\* (supports the commercial arm of Defence Science and Technology Laboratory)  
National Museums Liverpool\*  
Met Office\*  
Natural Environment Research Council\*  
Council for the Central Laboratory of the Research Councils  
One North East RDA

## **Appendix 2 – activities currently supported by PSRE fund**

### **Capacity Fund**

“It is envisaged that funding could be used as follows:

- Creating/developing expertise/resource  
This will involve augmenting existing skills or assembling sets of new skills and the capacity to manage commercialisation. A wide range of skills and areas of expertise are required to support commercialisation, a non exhaustive list of these skills and areas of expertise would include:
  - understanding of markets and of legal issues including patenting and other intellectual property;
  - providing advice on financing and investment;
  - managing negotiations and brokering deals;
  - drafting contracts;
  - marketing and licensing of new products and services; and
  - mentoring to inventors.

This fund may be used to support the development of the skills and areas of expertise required to manage commercialisation through, for example:

- recruitment;
- hire of consultants and out sourcing of commercialisation activities ;
- training and development of existing staff (which could include programmes of staff exchange and awareness training);
- creation of new posts;
- provision/establishment of facilities.
- Developing the intelligent customer function to be able to buy in services e.g. for commissioning more specialised services on a project by project basis.
- Establishing linkages to gain access to expertise in other institutions (e.g. through collaborations).
- Establishing a centre to provide a focus for links with business.
- Carrying out underpinning activities e.g. technology audits, market surveys.
- Establishment of a proof of concept fund. Funding for proof of concept under the capacity building component should:
  - be limited to work to demonstrate the commercial potential of research through funding, for example, market research, patent searches, developing prototype devices or equipment, developing specialised cell lines to show novel drug action or inhibition of cellular function, developing research tools to prove bench research findings can be scaled up, demonstrating scale up potential of an idea or concept, demonstrating potential of digitising a library of books/literature, showing how digitised data can be used by different markets/industries/users, demonstrating new uses for existing materials/technology, demonstrating novel uses of technology and how this might be transferred to new users.
  - not be used to support the commercial development of this research through e.g. establishment of a spin out company. Funding for this activity should instead be sought through the Seed Fund component.

- Purchase of equipment which is essential to the commercialisation of a new product or service.

These are given as examples to illustrate the nature of the activities the capacity building component of the PSRE Fund might support, and to indicate the wide-ranging nature of this part of the PSRE Fund. A small proportion of the budget may be allocated to support development of networks between Public Sector Research Establishments to exchange best practice and share expertise on commercialisation and to encourage links between Public Sector Research Establishments, businesses and other users. It will be for institutions themselves to propose activities, which will enable them to implement their strategic approach, and which are consistent with the aims and objectives of the PSRE Fund.”

#### Seed Fund

“The availability of seed funds can help the commercialisation process in a number of ways - financing access to managerial skills; by securing or enhancing intellectual property; by supporting additional R&D; preparation of a business plan; covering legal costs; etc. These are necessary to reduce technical risk and determine the commercial potential of discoveries to a sufficient extent that, for example, a sound and cogent business plan can be produced and adequately supported approaches made, for instance, to funders for financial support for the commercialisation process, or to established companies to take licences to the product or process. The funds are not to be used for “bricks and mortar” projects, such as building incubator units. Early stage proof of concept funding is provided under the Capacity Building component and should be included as part of a proposal for the Capacity Building component.”

(Source: **PUBLIC SECTOR RESEARCH EXPLOITATION FUND: GUIDELINES FOR BIDDERS** published for the 3<sup>rd</sup> Round of the Fund).